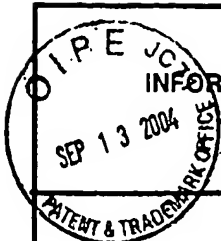


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| <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 2px solid black; border-radius: 50%; padding: 10px; text-align: center; margin-right: 10px;">             PTO<br/>SEP 13 2004<br/>PATENT &amp; TRADEMARK OFFICE           </div> <div> <b>INFORMATION DISCLOSURE CITATION</b><br/> <i>(Use several sheets if necessary)</i> </div> </div> |  |   |         | ATTY DOCKET NO.<br><b>PST-10703/36</b> |       | APPLICATION NO.<br><b>10/791,497</b> |                               |    |
|  |  |   |         | APPLICANT(S)<br><b>Smith et al.</b>    |       |                                      |                               |    |
|  |  |   |         | FILING DATE<br><b>3/2/2004</b>         |       | GROUP ART UNIT<br><b>3744</b>        |                               |    |
| <b>U.S. PATENT DOCUMENTS</b>   |  |   |         |  |       |                                      |                               |    |
| EXAMINER<br>INITIAL  |  | DOCUMENT NUMBER   | DATE    | NAME                                   | CLASS | SUBCLASS                             | FILING DATE<br>IF APPROPRIATE |    |
| <i>ml</i>  |  | 2,549,464   | 4/1951  | Hartley                                |       |                                      |                               |    |
| <i>W</i>   |  | 2,836,033   | 5/1958  | Marrison                               |       |                                      |                               |    |
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| <b>U.S. PATENT APPLICATION PUBLICATIONS</b>  |  |   |         |  |       |                                      |                               |    |
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| <b>FOREIGN PATENT DOCUMENTS</b>  |  |   |         |  |       |                                      |                               |    |
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|  |  |   |         |  |       |                                      | YES                           | NO |
| <i>ml</i>  |  | EP0614059 A1  | 3/1994  | Europe                                 | —     | —                                    |                               |    |
| <i>ml</i>  |  | EP0678715 A1  | 4/1994  | Europe                                 | —     | —                                    |                               |    |
| <i>ml</i>  |  | GB2237866   | 10/1990 | Great Britain                          | —     | —                                    |                               |    |
| <i>ml</i>  |  | WO02/087279 A2  | 10/2002 |  | —     | —                                    |                               |    |
|  |  |   |         |  |       |                                      |                               |    |
| <b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>  |  |   |         |  |       |                                      |                               |    |
| <i>ml</i>  |  | Garrett, Steven, "ThermoAcoustic Life Sciences Refrigerator," Oct. 30, 1991, pp 4-43.   |         |  |       |                                      |                               |    |
| <i>ml</i>  |  | Ceperley, Peter H., "A pistonless Stirling engine - The traveling wave heat engine," J. Acoust. Soc. Am, 66 (55), Nov. 1979, pp. 1508-1513. |         |  |       |                                      |                               |    |
| EXAMINER <i>William C Doenh</i>  |  |   |         | DATE CONSIDERED<br><i>3-16-06</i>      |       |                                      |                               |    |
| *EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.  |  |   |         |  |       |                                      |                               |    |



## INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

ATTY DOCKET NO.

PST-10703/36

APPLICATION NO.

10/791,497

Smith et al.

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## U.S. PATENT DOCUMENTS

| *EXAMINER<br>INITIAL | DOCUMENT NUMBER | DATE    | NAME             | CLASS | SUBCLASS | FILING DATE<br>IF APPROPRIATE |
|----------------------|-----------------|---------|------------------|-------|----------|-------------------------------|
| nd                   | 3,513,659       | 5/1970  | Martini          | 62    | 6        |                               |
| nd                   | 3,548,589       | 12/1970 | Cooke-Yarborough | 60    | 24       |                               |
| nd                   | 3,604,821       | 9/1971  | Martini et al.   | 417   | 379      |                               |
| nd                   | 3,991,585       | 11/1976 | Mulder           | 62    | 6        |                               |
| nd                   | 4,036,018       | 7/1977  | Beale            |       |          |                               |

## U.S. PATENT APPLICATION PUBLICATIONS

| *EXAMINER<br>INITIAL | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE<br>IF APPROPRIATE |
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## FOREIGN PATENT DOCUMENTS

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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

|    |  |  |
|----|--|--|
| nd |  | Gedeon, David, "DC Gas Flows in Stirling and Pulse Tube Cryocoolers," Cryocoolers 9, Edited by R.G. Ross, Jr., Plenum Press, NY, 1997, pp. 385-392 |
| nd |  | Wakelane, Ray Scott, "Use of Electrodynamic Drivers in Thermoacoustic Refrigerators," J. Acoust. Soc. Am. 107(2), Feb. 2000, pp. 827-832.          |

EXAMINER

William C Doerflinger

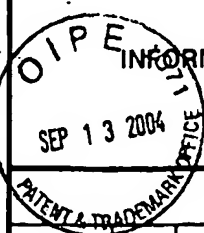
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| <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 2px solid black; border-radius: 50%; padding: 10px; text-align: center; margin-right: 10px;">             PIPE<br/>SEP 13 2004<br/>PATENT &amp; TRADEMARK OFFICE           </div> <div> <b>INFORMATION DISCLOSURE CITATION</b><br/> <i>(Use several sheets if necessary)</i> </div> </div> |  |  |         | ATTY DOCKET NO.<br><b>PST-10703/36</b> |       | APPLICATION NO.<br><b>10/791,497</b> |                               |    |
|   |  |  |         | Smith et al.                           |       |                                      |                               |    |
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| <b>U.S. PATENT DOCUMENTS</b>  |  |  |         |  |       |                                      |                               |    |
| EXAMINER<br>INITIAL   |  | DOCUMENT NUMBER  | DATE    | NAME                                   | CLASS | SUBCLASS                             | FILING DATE<br>IF APPROPRIATE |    |
| rw  |  | RE29,518   | 1/1978  | Franklin                               | 60    | 520                                  |                               |    |
| rw  |  | 4,114,380  | 9/1978  | Ceperley                               |       |                                      |                               |    |
| rw  |  | RE30,176   | 12/1979 | Beale                                  | 60    | 520                                  |                               |    |
| rw  |  | 4,355,517  | 10/1982 | Ceperley                               |       |                                      |                               |    |
| rw  |  | 4,398,398  | 8/1983  | Wheatley et al.                        |       |                                      |                               |    |
| <b>U.S. PATENT APPLICATION PUBLICATIONS</b>   |  |  |         |  |       |                                      |                               |    |
| EXAMINER<br>INITIAL   |  | DOCUMENT NUMBER  | DATE    | NAME                                   | CLASS | SUBCLASS                             | FILING DATE<br>IF APPROPRIATE |    |
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| <b>FOREIGN PATENT DOCUMENTS</b>   |  |  |         |  |       |                                      |                               |    |
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| <b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>   |  |  |         |  |       |                                      |                               |    |
| rw  |  | Swift, G.W., Ward, W.C., "Simple Harmonic Analysis of Regenerators," Journal of Thermophysics and Heat Transfer, Vol. 10, No. 4, Oct. - Dec. 1996, pp. 652-662.  |         |  |       |                                      |                               |    |
| rw  |  | Garrett, S., Perkins, D., Gopinath, A., "ThermoAcoustic Refrigerator Heat Exchangers: Design, Analysis and Fabrication," Physics Dept. - Code PH/Gx, Naval Postgraduate School, Monterey, CA, pp. 375-379. |         |  |       |                                      |                               |    |
| EXAMINER<br><i>Smith C Doehl</i>  |  |  |         | DATE CONSIDERED<br><i>3-16-06</i>      |       |                                      |                               |    |
| *EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.   |  |  |         |  |       |                                      |                               |    |

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|  |  |   |         | Smith et al.                           |       |                                      |                               |  |
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| <b>U.S. PATENT DOCUMENTS</b>   |  |   |         |  |       |                                      |                               |  |
| EXAMINER<br>INITIAL  |  | DOCUMENT NUMBER   | DATE    | NAME                                   | CLASS | SUBCLASS                             | FILING DATE<br>IF APPROPRIATE |  |
| W  |  | 4,450,685   | 5/1984  | Corey                                  | 60    | 520                                  |                               |  |
| W  |  | 4,489,553   | 12/1984 | Wheatley et al.                        |       |                                      |                               |  |
| W  |  | 4,490,983   | 1/1985  | Gifford et al.                         |       |                                      |                               |  |
| W  |  | 4,599,551   | 7/1986  | Wheatley et al.                        |       |                                      |                               |  |
| W  |  | 4,625,517   | 12/1986 | Miller                                 |       |                                      |                               |  |
| <b>U.S. PATENT APPLICATION PUBLICATIONS</b>  |  |   |         |  |       |                                      |                               |  |
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| <b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>  |  |   |         |  |       |                                      |                               |  |
| W  |  | Swift, G., Migliori, A., Wheatley, J., "Liquid Metal Thermoacoustic Engine," Condensed Matter and Thermal Physics Group, Los Alamos National Laboratory, Los Alamos, NM |         |  |       |                                      |                               |  |
| W  |  | Swift, G., "Analysis and Performance of a Large Thermoacoustic Engine," J. Acoust. Soc. Am. 92(3), Sept. 1992, pp. 1551-1563  |         |  |       |                                      |                               |  |
| EXAMINER <i>William C. Dore</i>  |  |   |         | DATE CONSIDERED <i>3-16-06</i>         |       |                                      |                               |  |
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|   |  |   |        | Smith et al.                           |       |                                      |                               |  |
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| <i>W</i>  |  | 4,686,407   | 8/1987 | Ceperley                               |       |                                      |                               |  |
| <i>W</i>  |  | 4,722,201   | 2/1988 | Hofler et al.                          |       |                                      |                               |  |
| <i>W</i>  |  | 4,858,441   | 8/1989 | Wheatley et al.                        |       |                                      |                               |  |
| <i>W</i>  |  | 4,858,717   | 8/1989 | Trinh et al.                           |       |                                      |                               |  |
| <i>W</i>  |  | 4,953,366   | 9/1990 | Swift et al.                           |       |                                      |                               |  |
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| <b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>   |  |   |        |  |       |                                      |                               |  |
| <i>W</i>  |  | Swift, G., "Thermoacoustic Engines and Refrigerators," Physics Today, Jul. 1995, pp. 22-28                    |        |  |       |                                      |                               |  |
| <i>W</i>  |  | Swift, G., "Thermoacoustic Engines," Journal of Acoustical Society of America 84(4), Jul. 1988, pp. 1145-1180 |        |  |       |                                      |                               |  |
| EXAMINER<br><i>William C Doenh</i>  |  |   |        | DATE CONSIDERED<br><i>3-16-06</i>      |       |                                      |                               |  |
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|  |  |  |  | <b>INFORMATION DISCLOSURE CITATION</b><br><i>(Use several sheets if necessary)</i> |  |                                      |  | APPLICANT(S)<br><b>Smith et al.</b> |  |
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| EXAMINER INITIAL      | DOCUMENT NUMBER | DATE    | NAME            | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |  |
| me                    | 5,165,243       | 11/1992 | Bennett         |       |          |                            |  |
| 20                    | 5,174,130       | 12/1992 | Lucas           |       |          |                            |  |
| 20                    | 5,269,147       | 12/1993 | Ishizaki et al. |       |          |                            |  |
| 20                    | 5,295,355       | 3/1994  | Zhou et al.     |       |          |                            |  |
| 20                    | 5,303,555       | 4/1994  | Chrysler et al. |       |          |                            |  |

| U.S. PATENT APPLICATION PUBLICATIONS |                 |      |      |       |          |                            |  |
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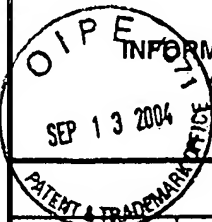
| OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i> |  |   |
|---|--|---|
| me  |  | Garrett, S., Adeff, J., Hofer, T., "Thermoacoustic Refrigerator for Space Applications," Journal of Thermophysics and Heat Transfer, Vol. 7, No. 4, Oct. - Dec. 1993, pp. 595-599 |
| 20  |  | Backhaus S., Swift, G., "A Thermoacoustic Stirling Heat Engine," Nature, Vol. 399, May 27, 1999, www. nature.com, pp. 335-338   |

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| EXAMINER <i>William C. Dearth</i> | DATE CONSIDERED<br><b>3-16-06</b> |
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| <div style="position: relative; height: 100px;"> <div style="position: absolute; top: 0; left: 0; width: 100%; height: 100%; border: 1px solid black; border-radius: 50%; display: flex; align-items: center; justify-content: center; text-align: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> PATENT &amp; TRADEMARK OFFICE </div> <div style="text-align: center;"> <b>PIPE INFORMATION DISCLOSURE CITATION</b><br/> <i>(Use several sheets if necessary)</i> </div> <div style="position: absolute; bottom: 0; left: 0; width: 100%; height: 100%; border: 1px solid black; border-radius: 50%; display: flex; align-items: center; justify-content: center; text-align: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> PATENT &amp; TRADEMARK OFFICE </div> <div style="text-align: center;"> <b>SEP 13 2004</b> </div> </div> </div> </div> |                 |  |             | ATTY DOCKET NO.<br><b>PST-10703/36</b> |          | APPLICATION NO.<br><b>10/791,497</b> |  |
|   |                 |  |             | Smith et al.                           |          |                                      |  |
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| <b>U.S. PATENT DOCUMENTS</b>  |                 |  |             |  |          |                                      |  |
| EXAMINER<br>INITIAL   | DOCUMENT NUMBER | DATE   | NAME        | CLASS                                  | SUBCLASS | FILING DATE<br>IF APPROPRIATE        |  |
| aw  | 5,319,938       | 6/1994   | Lucas       | —                                      | —        |                                      |  |
| aw  | 5,339,640       | 8/1994   | Reinke      | —                                      | —        |                                      |  |
| aw  | 5,357,757       | 10/1994  | Lucas       | —                                      | —        |                                      |  |
| aw  | 5,369,625       | 11/1994  | Gabrielson  | 367                                    | 140      |                                      |  |
| aw  | 5,389,844       | 2/1995   | Yarr et al. | —                                      | —        |                                      |  |
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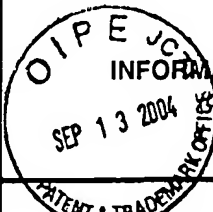
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|  <b>INFORMATION DISCLOSURE CITATION</b><br><i>(Use several sheets if necessary)</i>   |                 |         |   | ATTY DOCKET NO.<br><b>PST-10703/36</b> |          | APPLICATION NO.<br><b>10/791,497</b> |  |
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| 22  | 5,502,968       | 4/1996  | Beale   | —                                      | —        |                                      |  |
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| RW  | 5,701,743       | 12/1997 | Hagiwara et al.   | —     | —        |                               |  |
| RW  | 5,813,234       | 9/1998  | Wighard   | —     | —        |                               |  |
| RW  | 5,857,340       | 1/1999  | Garrett   | —     | —        |                               |  |
| RW  | 5,901,556       | 5/1999  | Hofler  | —     | —        |                               |  |
| RW  | 5,953,920       | 9/1999  | Swift et al.  | —     | —        |                               |  |
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|   |  |  |         | Smith et al.                           |       |                                      |                               |    |
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| EXAMINER<br>INITIAL   |  | DOCUMENT NUMBER  | DATE    | NAME                                   | CLASS | SUBCLASS                             | FILING DATE<br>IF APPROPRIATE |    |
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| <i>WJ</i>   |  | 5,996,345  | 12/1999 | Hofler                                 | —     | —                                    |                               |    |
| <i>WJ</i>   |  | 6,032,464  | 3/2000  | Swift et al.                           | —     | —                                    |                               |    |
| <i>WJ</i>   |  | 6,059,020  | 5/2000  | Jairazbhoy et al.                      | —     | —                                    |                               |    |
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| <i>WJ</i>   |  | Gardner, D. Swift G., "Use of Inertance in Orifice Pulse Tube Refrigerators," Cryogenics 37 (1997), 1997 Elsevier Science Limited, pp. 117-121 |         |  |       |                                      |                               |    |
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|  | ATTY DOCKET NO.<br><b>PST-10703/36</b> | APPLICATION NO.<br><b>10/791,497</b> |
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| <i>rw</i>            | 6,233,946       | 5/2001  | Masuda         | —     | —        |                               |
| <i>rw</i>            | 6,307,287       | 10/2001 | Garrett et al. | —     | —        |                               |
| <i>rw</i>            | 6,314,740       | 11/2001 | De Bloc et al. | —     | —        |                               |
| <i>rw</i>            | 6,385,972       | 5/2002  | Fellows        | —     | —        |                               |

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| <i>rw</i>            | 2001/0025494    | 10/2001 | Sinclair et al. | —     | —        |                               |
| <i>rw</i>            | 2002/0166325    | 11/2002 | Corey           | —     | —        |                               |
| <i>rw</i>            | 2002/0178736    | 12/2002 | Corey et al.    | —     | —        |                               |
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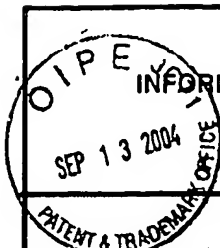
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|   |  |                 |           | Smith et al.                           |       |                                      |                               |    |
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